

cent., oxygen 6.64 per cent., carbonic acid 5.35 per cent., being about the composition of the air from a well-manured soil. This carbonic acid carried into the leaves with the sap, and also that which they may absorb directly from the atmosphere, decomposed along with water under sunlight, must be the source of the glucose ( $C^{12}H^{12}O^{12}$ ) which it is the principal function of foliage to produce. This glucose, in fixing or abandoning the elements of water, becomes sugar, starch, cellulose, or other hydrates of carbon, which, in whatever part of the plant accumulated or deposited, and however transformed or retransformed, must always have originated from carbonic acid and water in the green parts of plants. In closing his present paper with some illustrations of this now familiar view, Boussingault announces that his more recent experiments will enable him to demonstrate the direct formation of saccharine matter by the green parts of vegetables exposed to the light.—Silliman's *American Journal*, July 1866.

*Observations on a Malady of the Cotton-plant, called "Pelagra," and on some Fungi which accompany it.* By G. GASPARRINI.

In the summer of 1863 some cotton-plants cultivated in the province of Naples were attacked by a disease which alarmed the cultivators, who have become frightened about the attacks of Mucedineæ, in consequence of the ravages of *Oidium*. The author examined the blackened stems of the plants attacked, and detected several Fungi of the family Mucedineæ—amongst others *Alternaria tenuis*. This production did not appear to him to be autonomous, but one of the conidic forms of a small fungus of higher order, namely *Pleospora* (*Sphaeria*) *herbacea*. He regards *Penicillium glaucum* as a gonidic form of *Alternaria*. These, however, are pure hypotheses.

M. Gasparrini does not attribute the disease of the cotton-plant to these plants, but considers it to be due to meteorological conditions.—*Bibl. Univ.* 1866, *Bull. Sci.* p. 167.

*Fossil Medusæ.*

Professor Haeckel of Jena, who in 1865 called attention to the existence of well-preserved Medusæ in the lithographic slates of Eichstadt, belonging probably to the families of *Æquoridæ* and *Trachynemidæ*, has published, in a recent number of 'Leonhard und Geinitz's Jahrbuch,' a second notice of two other species of Medusæ so well preserved that the family to which they belong can be ascertained beyond doubt. They are from the same locality, and belong to the *Discophoræ*, to the family of *Rhizostemidæ*. The restoration which Professor Haeckel has been able to make from the specimens in his possession is quite satisfactory; and the attention of geologists having been called to this subject, we may expect further interesting developments in the history of *Acalephæ*, since it is now well known that even at the present time a kind of petrification of jellyfishes, when thrown upon sandy beaches, readily takes place.—Silliman's *American Journal*, July 1866.